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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:  
SCOTT JACOBS;  
Serial Number:  
10/727,061

Filed  
December 2, 2003  
For:  
IMPROVED MOUTHPIECE

ART UNIT: 3743

Examiner:  
Camtu T. Nguyen

Docket No. 130136

Enclosed please find three (3) copies of a Replacement Brief on Appeal in the subject application in response to the communication mailed December 29, 2006. This replacement brief has the same substance as the original brief. All fees have been paid. Also enclosed is a certificate of mailed signed and dated today.

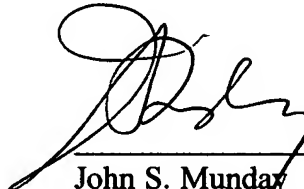
DATE: 1/8/07

Respectfully submitted  
SCOTT JACOBS

By his Attorney

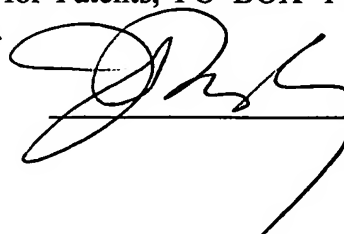
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I hereby certify that the attached correspondence is being deposited with the United States Postal Service First Class Mail in an envelope addressed to: mail stop Appeal Brief non Fee, Commissioner for Patents, PO BOX 1450, Alexandria, VA, 22313-1450 on the date appearing below.

DATE: 1/9/07

  
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In re application of:  
SCOTT JACOBS  
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GROUP: 330

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Camtu Nguyen

Docket No. 130136

**(REPLACEMENT) BRIEF ON APPEAL**

To the Commissioner of Patents and Trademarks:

Sir:

Please enter this Replacement Brief On Appeal from a Notice of Appeal filed April 6, 2005 in response to the Notice of Non-Compliance Appeal Brief mailed December 29, 2006. All fees have been paid.

**(1)**

**REAL PARTY IN INTEREST**

The real party in interest in this application is Safe-T-Gard Corporation by virtue of an Assignment executed by the above named inventor on November 6, 2003, and filed with the U.S. Patent and Trademark Office for recordation on June 6, 2005.

**(2)**

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences for this application.

**(3)**

**STATUS OF CLAIMS**

Claims 1-4, 7-10, 13 and 14 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. (hereinafter Frantz) U.S. Patent No. 5,794,627 in view of Adell (hereinafter Adell) U.S. Patent No. 5,406,963.

Claims 5, 6, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz and Adell, further in view of Ueno (hereinafter Ueno) U.S. Patent No. 5,513,984.

Claims 1-14 are the claims on which this appeal is taken.

**(4)**

**STATUS OF AMENDMENTS**

No amendment to any of Claims 1-14 has been made or proposed since prior to the mailing of the Final Rejection.

(5)

#### SUMMARY OF THE INVENTIOIN

Independent claims 1, 7 and 13 each claim an athletic mouthguard having a first, outer portion 11 which is U-shaped and has a tab 21 and a plurality of holes 27, and a second portion 31 made from a gel material that, when molded, extends into holes 27 to lock the two portions together. Portion 11 is an outer tray that conforms to the user's mouth (Specification: page 12, lines 4-12) and portion 31 contains a gel 33 that is soft and functions as a cushion (Specification: page 11, lines 24-25) against impact during use. Gel 33 is made from a material having sufficient softness to protect the user from damage during use in athletic competition (Claim 1 as originally filed).

Independent claims 1, 7 and 13 each claim a mouthguard that repeatedly cushions the teeth by presenting (1) a gel inner portion that is not formed into an impression of the user's teeth but functions to cushion against impact, and (2) has an outer component that holds the cushioning gel against the teeth because it has been conformed to the user and which has been conformed by heating to the user's mouth for a more precise fit and careful positioning of the cushioning gel. The outer portion offers positioning of the inner portion as it best cushions the teeth.

(6)

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

##### FIRST GROUNDS

Claims 1-4, 7-10, 13 and 14 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. U.S. Patent No. 5,794,627 (Franz) in view of Adell U.S. Patent No. 5,406,963 (Adell).

Frantz is cited as showing a device for use in a patient's mouth in which a tray or trays are used to place an impression material in contact with the user's teeth to form an impression. The material in contact with the teeth is a putty rope 20. Frantz et al. inner portion is designed to be used once and then be discarded.

Adell discloses a two component tray in which the first component is molded or otherwise formed with holes, and then a second component is subsequently molded such that the second component passes through the holes to form a mechanical bonding of the components together. The main body, 10, supports and encloses the liner 12, which liner 12 is in contact with the teeth. Liner 12 is in both trough 16 and trough 18. The component that provides protection in Adell is liner 12, which is conformable to the teeth.

The issue is whether it is obvious to combine two references, both of which contact the user's teeth with a material that is specifically recited to conform to the user's teeth, to make obvious these claims that requires that the material that contacts the teeth not conform to the teeth but rather acts as a cushion and only the outer, carrier tray conforms. Is it obvious to use material that does not cushion as a material for cushioning during repeated use?

## SECOND GROUNDS

Claims 5, 6, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. and Adell, further in view of Ueno U.S. Patent No. 5,513,984 (Ueno).

Ueno is said to disclose a styrene block copolymer, which is a gel. Ueno teaches that the ball members 3, which are explicitly stated to be "made of a material which cannot be deformed by subjecting occlusion pressure," as noted in the abstract and elsewhere, cannot be deformed.

The issue is whether it is obvious to substitute a non cushioning material for a non cushioning material to make obvious the use of a cushioning material.

## (7) ARGUMENT

### FIRST GROUNDS ARGUMENT

As noted above, claim 1, inter alia, contains the limitations that the outer tray be conformable to the user's teeth and the inner tray function as a cushion to protect the teeth from damage when the user encounters a blow to the jaw area. Neither of the cited references, nor any other prior art, alone or in combination, suggests or otherwise makes obvious the use of this combination of two portions in one mouthguard.

Franz makes an impression of the user's teeth with its inner tray. Franz is not even concerned with protecting teeth but, rather, is intended to prevent snoring during sleep. The reference discloses an upper tray 12 for temporary securement to the user's maxillary dentition and a lower tray 14 for temporary securement to the user's mandibular dentition. The trays are stated (column 2, lines 59 ff.) as being of the type that holds in impression material and in fact hold putty rope 20, which is an impression material. In use, both trays (column 5, lines 42 ff.) are filled with a rope of putty and the patient bites down. The putty is then hardened (column 5, line 60). Nowhere Franz is there any recognition of the need for a cushion material to be in contact with the user's teeth.

Since the Franz inner portion is hardened and conformed to the teeth and offers no cushion, it would be at most useable once. One cannot imagine a hockey player getting a new mouthguard after every impact.

Adell does actually relate to a mouthguard, but it is for dental use and not to protect the user during athletic competition. Adell discloses a two component tray in which the first component is molded or otherwise formed with holes, and then a second component is subsequently molded such that the second component passes through the holes to form a mechanical bonding of the components together. The main body, 10, supports and encloses the liner 12, which liner 12 is in contact with the teeth. Liner 12 is in both trough 16 and trough 18. Thus it can be said that the component that provides protection in Adell is liner 12, which is conformable to the teeth. In fact, liner 12 may or may not soften sufficiently to conform to the user's teeth, though it does in the preferred embodiment. There is, again, no recognition of the need for a cushion material to be in contact with the user's mouth. Use of the Adell design would put the user at greater risk of damage during impact, say with an elbow from a competitor, because it would bruise or cut the inside of the user's mouth and would do nothing to absorb impact.

The combination of Franz and Adell, taken as a whole, does not suggest the claimed subject matter because nowhere in either reference is (1) the concept of a cushion layer in contact with the teeth, (2) the use of an outer tray that does conform to the teeth (as neither Franz nor Adell do) to position the cushion portion in a place to protect the user. The rope of Franz and the liner of Adell cannot function as a cushion and both are conformed to the teeth of the user. The outer trays of Franz and Adell are not conformed to the user but serve to hold the conformable inner layer.

The references, alone or in combination, taken as a whole, do not suggest the two components of the present invention function but are in direct opposition to the same components of claimed invention. There is no hint of a suggestion that one would contravene the teachings of Franz et al. or Adell to do the opposite of what is taught by both references.

This point cannot be over emphasized. Rather than an inner tray that conforms to the teeth of the user, Applicant recites an inner tray of a gel that cushions the teeth but does not conform upon heating. Franz has putty that conforms to the patient's teeth but does not cushion. Adell has liner 12 that conforms to the teeth and does not cushion the teeth upon impact.

Only Applicant has made a mouthguard that repeatedly cushions the teeth by presenting a gel that is not formed into an impression of the user's teeth and that has an outer component that (1) holds the cushioning gel against the teeth and (2) itself is conformed by heating to the user's mouth for a more precise fit and careful positioning of the cushioning gel. One can not combine the references to find features that are not only not present but which are direct opposites to the claimed features.

## SECOND GROUNDS ARGUMENT

The second issue on appeal is whether the third reference, Ueno, discloses a material set forth in the rejected claims and use of that material in the combination of Franz in view of Adell is obvious. The Examiner has stated that, "Ueno teaches the ball members (3) is

made of thermoplastic elastomer (e.g. styrene block copolymer) which offers a softening point of higher than 100 °C, higher than that of the mouthpiece." Thus the Examiner is suggesting that a material be inserted in the primary reference combination that doesn't soften even in boiling water. How can it cushion an elbow to the jaw?

These balls of Ueno, which are hard and do not compress or act as a cushion, are to be substituted in Frantz et al. for the putty, which also does not act as a cushion or the impression material of Adell which also does not act as a cushion. This combination would cause injury to the user of a mouthguard with hard material in contact with the teeth. The concept of gel cushioning and outer tray conformation to the user is directly contrary to the teachings of this reference and to all of the references. Taken as a whole, the cited art fails to even suggest components of the device claimed herein.

Applicant has claimed a device in which the outer tray does conform to the user's mouth and gums, so that it is personalized and fits tightly in the mouth. In contrast again, Frantz et al. has an outer tray that does not conform. Adell's outer tray is a plastic material that does not deform upon heating and is hard. This lack of a conformable outer tray in both references thus also leads one skilled in the art away from the invention completely.

In summary, it is respectfully submitted that none of the references have an outer tray, which does not directly contact the user's teeth, that does conform when heated to give a better fit, and none of the references have an inner tray that does not conform to the teeth but instead cushions the teeth on impact. Both claimed elements are the direct opposite in the cited art.

Favorable consideration is earnestly solicited and allowance of the claims is respectfully urged.

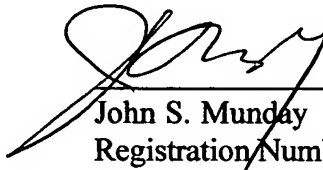
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(8)  
CLAIMS APPENDIX

1. A mouthguard for use by athletes in competition and the like, comprising:  
a first outer portion having a teeth engaging shape made from a material having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion being formed into a tray having a generally U-shape, said first portion having a tab extending out from the tray, said tray having a plurality of holes therein;  
a second inner portion formed on said first portion such that part of said second portion extends through said plurality of holes in said first portion to lock the two portions together, said second portion being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.
2. The mouthguard of claim 1, wherein said first portion is formed from a thermoplastic material.
3. The mouthguard of claim 2, wherein said thermoplastic material is an ethylene vinyl acetate copolymer.
4. The mouthguard of claim 3, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.
5. The mouthguard of claim 4, wherein said second portion is formed from a gel selected from the group consisting of styrene block copolymers and thermoplastic polyurethanes.
6. The mouthguard of claim 4, wherein said gel is a styrene block copolymer.
7. A mouthguard for use by athletes in competition and the like, comprising:  
first outer portion means for engaging teeth and made from a material having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion means being formed into a tray having a generally U-shape, said first portion means having a tab extending out from the tray, said tray having a plurality of holes therein;  
second inner portion means for providing a cushion and formed on said first portion means such that part of said second portion means extends through said plurality of holes in said first portion means to lock the two portion means together, said second portion means being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.
8. The mouthguard of claim 7, wherein said first portion means is formed from a thermoplastic material.

9. The mouthguard of claim 8, wherein said thermoplastic material is an ethylene vinyl acetate copolymer.

10. The mouthguard of claim 9, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.

11. The mouthguard of claim 10, wherein said second portion means is formed from a gel selected from the group consisting of styrene block copolymers and thermoplastic polyurethanes.

12. The mouthguard of claim 11, wherein said gel is a styrene block copolymer.

13. A mouthguard for use by athletes in competition and the like, comprising:  
a first outer portion formed from a ethylene vinyl acetate copolymer material and having a teeth engaging shape and having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion being formed into a tray having a generally U-shape, said first portion having a tab extending out from the tray, said tray having a plurality of holes therein;

a second inner portion formed from a block styrene copolymer and mounted on said first portion such that part of said second portion extends through said plurality of holes in said first portion to lock the two portions together, said second portion being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.

14. The mouthguard of claim 13, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.

(9)

EVIDENCE APPENDIX

NONE

(10)

RELATED PROCEEDINGS APPENDIX

NONE